ABSTRACT OF THE DISCLOSURE

Disclosed is a rubber process oil in which the content of polycyclic aromatics (PCAs) as determined by the IP 346 method is less than 3 % by mass and which is rich in aromatic hydrocarbons, and a method for producing the same. The aniline point of the rubber process oil is 80 ℃ or less, and the $\%C_a$ value as determined by ring analysis according to the Kurtz method is from 20 to 50 %. The rubber process oil is produced by using extraction of lube oil fraction with a solvent having a selective affinity for aromatics. The extraction conditions are determined so that the extraction yield is regulated to a predetermined requirement defined by the PCAs content of the lube oil fraction. Alternatively, the extract is cooled to further separate into the extract and the raffinate, and the second raffinate is used for the rubber process oil.